

## ABSTRACT OF THE DISCLOSURE

An active implantable medical device of the defibrillator, cardiovertor and/or antitachycardia pacemaker type having a high maximum frequency for antibradycardia stimulation. This device provides antibradycardia stimulation at a stimulation frequency that has a programmed maximum stimulation frequency. For a detected rate exceeding a given frequency threshold, the device analyzes the cardiac activity to discriminate a ventricular tachycardia or fibrillation to command in consequence an appropriate antitachycardia therapy. The maximum stimulation frequency for antibradycardia is higher than the given frequency threshold for the antitachycardia analysis, and the cardiac rhythm is analyzed to detect a particular succession of events that are likely to reveal the presence or the appearance of a ventricular tachycardia during such high antibradycardia stimulation. In this case, the duration of the ventriculo-atrial delay of stimulation is prolonged at least until the end of the calculated escape interval, and until the end of the programmed maximum interval of detection of ventricular tachycardia. This accommodates an antibradycardia stimulation at a rate greater than the frequency threshold used to suspect or declare an antitachycardia while enabling detection of the latter.